INSTRUCT-O-GRAM

THE HANDS-ON TRAINING GUIDE
FOR THE FIRE INSTRUCTOR

The "Safety Engine" Concept - Part II

Incident Location:_____ Safety Engine Officer:_____
Incident Dispatch Time:_____ Safety Engine Channel:_____

SIZE-UP

- **Building dimensions (length x width x height)**
- **Building occupancy**
- **Building construction type:**
  - **Wood frame**
  - **Heavy timber**
  - **Ordinary**
  - **Noncombustible**
  - **Fire resistive**
- **Mean of access/egress**
  - **Windows**
  - **Doors**
  - **Scuttles**
- **Potential obstructions: Barred windows, high security doors, fences, etc.**

TACTICS

- **Offensive, defensive, defensive to offensive**

- ❑ Command operations
  - o Check tactical worksheet
  - o Check accountability board
  - o Monitor fire ground communications
- ❑ Ladders and truck operations
- ❑ Total incident time _____min. _____min. _____min. _____min.

RESPONSIBILTIES

Confirm or initiate:

- ❑ 360 Size-Up (to be completed every 15 min.)
  - o 15 minutes
  - o 30 minutes
  - o 45 minutes
- ❑ Utilities secured
- ❑ Ladders – Means of access/egress to all upper level operations
- ❑ Backup line – Uncharged line (off secondary apparatus if possible)
- ❑ Scene lighting (4 Sides and entry way)
- ❑ Security bars removed in areas of operation
- ❑ Accountability system in operation
- ❑ Check with rehab officer / condition of firefighters
- ❑ Check with safety officer / compare information
- ❑ Evaluate need for additional Safety Engine / Sector
- ❑ Evaluate structural collapse potential
- ❑ Confirm EMS - Standby

EQUIPMENT

T.I.C.	Hand lights	Door wedges
Search Rope (Life Line)	Radios	Tin snips
Irons (Halligan / Flat Head Axe)	Secondary Air Supply	M.A.S.T.
Stokes basket	Ladders	Salvage Cover

CONTACT INFORMATION:
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Hands-On Training:

INSTRUCTIONS:

(Step 1)
Utilizing an acquired structure or burn house training facility, simulate (using synthetic smoke) a reported structure fire. First alarm units should be staged at a remote location and respond according to the pre-established Standard Operating Guideline. Delays in response should be provided to best simulate an actual structural response.

(Step 2)
Assign a designated Safety Engine Crew to begin initiating any proactive measures on the fire ground that would support a self-rescue effort.

(Step 3)
Have interior crews simulate a "Mayday" request (simulating a trapped or injured firefighter).

(Step 4)
Deploy the Safety Engine Crew (activate the established rescue action plan) and complete the rescue operation.

(Step 5)
Participants should be assessed on:

1. Appropriateness of actions (i.e. ground ladder placement, lighting, etc.)
2. Timeliness of actions
3. Crew continuity and reporting to Safety Engine Officer and/or IC.
4. Continued scene size-up, followed by proper revisions of the rescue action plan.
5. Deployment and rescue operations (timeliness, rescue action planning, communications, safety).

(Step 5)
Perform a post-incident analysis, review, revise, and implement recommended changes modifications to the established Safety Engine policy/program.

SUMMARY:

The Safety Engine Concept is designed to focus on the survivability of firefighters working on the modern fire ground. As we know, staffing limitations and budgetary constraints will continue to require us to modify our fire ground tactics for years to come. The Safety Engine Concept is just another method of modification to current operations that helps us place a proactive focus on firefighter survivability. This concept will enable most fire departments to meet the requirements of a dedicated rapid intervention team while establishing a safer, more proactive fire ground that lessens the need for a rapid intervention team deployment.

Although many will argue that the Safety Engine Concept crosses the lines of traditional beliefs, past incidents and numerous investigative findings strongly support the necessity of such a concept. Firefighters across the county must understand that the key to fire ground survival lies solely in our own hands, the reactionary method of firefighter rescue has unfortunately become commonly fatal. Lets learn from the past in hopes of preventing or avoiding similar tragedies in the future.

EXAMINATION ANSWER KEY (pg.18), The Safety Engine Concept, February/March 2004

1. D	2. B	3. A	4. C	5. C
6. D	7. C	8. D	9. D	10. A

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EXAMINATION:

This evaluation is based on the February 2004 Instruct-O-Gram - The Safety Engine Concept.

1. When should a Safety Engine be dispatched?
   a. Suspected and/or confirmed working fires
   b. Hazardous materials incidents requiring entry
   c. Specialized rescue operations
   d. All of the above

2. What N.F.P.A. Standard defines the roles and responsibilities of a Rapid Intervention Team?
   a. N.F.P.A. 1521
   b. N.F.P.A. 1500
   c. N.F.P.A. 1410
   d. N.F.P.A. 1581

3. Two-in/two-out is part of what document?
   a. O.S.H.A. 1910.134
   b. O.S.H.A. 1910.221
   c. N.F.P.A. 1410
   d. N.F.P.A. 1910

4. According to the Safety Engine Concept what company should be assigned as the Safety Engine?
   a. First due company
   b. Second due company
   c. Third due company
   d. Special call unit added to the first alarm assignment

5. According to the material provided, what is a "Safety Engine?"
   a. Proactive rapid intervention team
   b. Backup unit for first arriving company
   c. Unit designated for the Incident Safety Officer
   d. Multi-stage pumping unit

6. According to the material provided, the Safety Engine Officer reports to the _____upon arrival?
   a. Incident Safety Officer
   b. Staging Officer
   c. Operations Officer
   d. Incident Commander

7. According to the material provided, how should ladders deployed for rapid egress and/or firefighter rescue be positioned?
   a. Above the windowsill at a 75.5 degree angle
   b. Left or right of the window at an exaggerated angle
   c. Below the windowsill at a 60 degree angle
   d. None of the above

8. When should a Safety Engine Crew be returned to service?
   a. Immediately following knockdown
   b. Upon completion of the secondary search
   c. Upon completion of salvage operations
   d. Not until after overhaul

9. Which of the following can be described as "cues" for fire ground forecasting?
   a. P.A.S.S alarm activation
   b. Smoke color/density
   c. Radio communications
   d. All of the above

10. Which of the following is NOT considered a proactive task to be initiated by the Safety Engine Crew?
    a. Primary/secondary search operations
    b. Scene lighting
    c. Utility isolation
    d. Ladder placement

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